Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1-21. (Canceled)

22. (Previously Presented) An incubator for observation by microscope comprising:

an upwardly water tank unit including a container-accommodating portion in which a specimen container such as a dish is to be placed removably at the central portion thereof and a water reservoir disposed around the container-accommodating portion;

a lid for covering the upper end of the unit;

a heater for heating the specimen container and the unit; and

a means for supplying gas into an incubation space defined by the unit and the lid;

wherein:

each of the unit and the lid have at the central portion thereof a light ray transmitting portion for transmitting light ray upwardly or downwardly therethrough;

the heater is of a plate type heating the container from the bottom thereof, and the heater is also provided with a light ray transmitting portion at the position corresponding to those provided on the unit and the lid; and

the heater has a laminate comprising upper and lower plates and a heating element interposed therebetween, a top plate disposed above the upper plate with a space from the upper plate, and a frame for supporting the laminate and the top plate.

23. (Previously Presented) The incubator according to claim 22, wherein the top plate is rested on an inner flange of the frame.

24-26. (Canceled)

27. (Previously Presented) An incubator for observation by microscope comprising:

an upwardly water tank unit including a container-accommodating portion in which a specimen container such as a dish is to be placed removably at the central portion thereof and a water reservoir disposed around the container-accommodating portion;

a lid for covering the upper end of the unit;

a heater for heating the specimen container and the unit; and

a means for supplying gas into an incubation space defined by the unit and the lid;

wherein:

each of the unit and the lid have at the central portion thereof a light ray transmitting portion for transmitting light ray upwardly or downwardly therethrough; and

the unit is adapted to be placed on the upper surface of the stage of the microscope so as not to contact with the heater with a spacing defined therebetween, and the unit and the heater are separable.

28. (Previously Presented) The incubator according to claim 27, further comprising fixtures for securing the unit on the upper surface to the stage of the microscope.

29-35. (Canceled)

36. (Previously Presented) An incubator for observation by microscope comprising:

an upwardly water tank unit including a container-accommodating portion in which a specimen container such as a dish is to be placed removably at the central portion thereof and a water reservoir disposed around the container-accommodating portion;

a lid for covering the upper end of the unit;

a heater for heating the specimen container and the unit; and

a means for supplying gas into an incubation space defined by the unit and the lid;

wherein:

each of the unit and the lid have at the central portion thereof a light ray transmitting portion for transmitting light ray upwardly or downwardly therethrough;

the light ray transmitting portion of the lid closing the upper end of the unit has a heating portion comprising a laminate structure including a transparent conductive film layer disposed between transparent glass plates.

37. (Previously Presented) An incubator assembly for observation by microscope, comprising the incubator according to claim 28, and a jig assembly for securing the fixtures for the incubator in the desired position including a centering member and an outer jig member;

the centering member being used to align the center of the water tank unit with the center of tool fitting hole,

the outer jig member is being fit around the peripheral portion of the unit, when the center of the water tank unit is aligned with the center of tool fitting hole by the centering member, and being used such that the fixtures are in contact and fit around the outer jig member for positioning.

38-40. (Canceled)

41. (Previously Presented) The incubator according to claim 22, further comprising a means for supplying water into the reservoir from the outside of the unit.

42. (Previously Presented) The incubator according to claim 22, wherein the heater is of a plate type heating the container from the bottom thereof, and the heater is also provided with a light ray transmitting portion at the position corresponding to those provided on the unit and the lid.

43. (Previously Presented) The incubator according to claim 22, further comprising a nutrient medium supplying means for supplying nutrient medium into the container within the unit from outside thereof.

44. (Previously Presented) The incubator according to claim 43, wherein the nutrient medium supplying means has a structure for enabling the replenishment of nutrient medium within the container without removing the lid of the unit.

45. (Previously Presented) The incubator according to claim 22, the container-accommodating portion further comprising a pair of container holders disposed across the central portion of the unit and adjustable the spacing between the holders as desired.

46. (Previously Presented) The incubator according to claim 22, wherein an entrance opening is provided through the side wall of the unit for putting the container into and out of the accommodating portion, and a side closure member for closing and opening the entrance is also provided.

47. (Previously Presented) The incubator according to claim 22, wherein the lid covering the upper end of the unit has one or more slots formed through which any operation will be carried out to the specimen, the position of each slot is offset from the region of the accommodating portion on which the specimen container is to be placed, the lid is adjusted to shift, while closing still the opening on the upper end of the unit, to displace the slots directly above the region of the accommodating portion on which the specimen container is to be placed.

48. (Previously Presented) The incubator according to claim 22, wherein the lid covering the upper end of the unit has an aperture formed in the region of the accommodating portion on which the specimen container is to be placed, the aperture is covered with a cover plate being rested on the lid, the cover plate can be displaced relative to

the upper surface of the lid within the predetermined range while closing the aperture, the cover has a hole formed therein for inserting the objective lens.

49. (Previously Presented) The incubator according to claim 22, wherein on the bottom surface of the water tank is provided a water tank heater.

50. (Previously Presented) The incubator according to claim 42, wherein the heater for heating the specimen container and the water tank unit has a container-placing portion at which a heating portion is formed of a transparent conductive film.

51. (Previously Presented) An incubator assembly for observation by microscope, comprising:

the incubator according to claim 22; and

a specimen container accommodated within the incubator;

wherein:

the specimen container includes a body opened at its upper surface and a lid for covering the upper surface;

the lid is provided integrally with a pair of protrusions for connecting tubes at its upper surface; and

the protrusion includes an aperture for connecting the tube, a channel extending from the aperture to the lower surface of the lid.

52. (Currently Amended) An incubator assembly according to claim 22, further comprising a means for securing the specimen container to urge the container against the objective lens, when interposing any oil or water between the objective lens of the microscope and the specimen ~~container.~~ container, and

the heater has a through hole.

53. (Previously Presented) An incubator assembly for observation by microscope, comprising:

the incubator according to claim 46; and

tongs for putting the specimen container into and out of the incubator;

wherein the tongs include a pair of arms formed of elastically deformable material connected at the rear ends or proximal ends thereof, which arms are crossed with each other at the crossing portion provided through the middle portion of these arms, and include a pair of urging portions to have the arms approach with each other and close by the force generated by the elastic deformation of the material of the tongs, and a pair of parallel pinching portions made between the urging portions and the crossing portions, preventing the urging portions to be removed in more-closed direction from the given position.